

Application No.: 10/660,608Docket No.: 2336-202

ABSTRACT

[[A]]In a signal processor for use in an electronic compass for controlling an offset voltage generated in an analog signal process and automatically controlling an amplification gain. ~~In the signal processor,~~ an analog signal processor 52 amplifies signals S_x and S_y , and controls an offset voltage and amplitude A generated during an amplification process. An analog/digital (AD) converter 53 converts analog signals V_{adc_x} and V_{adc_y} from the analog signal processor 52 into a digital signal. A digital signal processor 54 measures a maximum value V_{adc_max} and a minimum value V_{adc_min} associated with the digital signal from the AD converter 53, and outputs, to the analog signal processor 52, ~~[[the]]~~an offset control signal S_{oc} and ~~[[the]]~~a gain control signal S_{gc} based on the maximum value V_{adc_max} and minimum value V_{adc_min} . The signal processor can maintain levels of signals, to be inputted into the AD converter, to be within a reference voltage range.